



Millennium Ecosystem Assessment

Newsletter April 2002

Now comes the hard part...

The Millennium Ecosystem Assessment (MA) reaches an important milestone in April with the convening of the first Working Group meetings, marking the initiation of the analytical phase of the assessment. It may come as a surprise that more time was spent laying groundwork for the MA (nearly three and a half years) than will be spent in analysis, peer review, and dissemination of the findings (three years).

If the purpose of a scientific assessment is only to produce an authoritative document, then it makes no sense to wait to begin drafting the product until halfway through the process. But the goal of the MA, like that of the Intergovernmental Panel on Climate Change, is not to produce a report but rather to bring the findings of science to bear on the needs of decision-makers. For that reason, interactions with users are just as important as “getting the science right.” If the audience for an assessment does not view the process to be politically legitimate or if the information needs of that audience have not helped to define the questions being addressed, then the assessment will fail regardless of the quality of the analysis. The first phase of the MA has thus been largely devoted to ensuring that demand for the assessment existed, designing an institutional mechanism authorized by governments as a legitimate body to undertake the assessment, identifying the needs of the users, and creating a conceptual framework and technical design that could address those needs. The time that has been (and will be) devoted to building and maintaining strong engagement with MA users will be a critical factor determining its usefulness.

At this key stage in the process, the MA encounters an array of new challenges associated with the analytical work and methodology. Many of the most pressing needs for information identified by MA users are fundamentally holistic: How can environmental management contribute to poverty alleviation? What effect will the growing human contribution to global nitrogen cycles have on ecosystems and human well-being? Questions such as these cannot be answered by sectoral assessments and they cannot be answered at a single scale; they require an integrated multiscale structure like the MA. But as easy as it is to identify the need for such an assessment, it is another matter entirely to know how to actually *conduct* it.

Major strides were made in developing a conceptual framework and defining a practical scope and methodology for the MA during the technical design meetings in 2001. During 2002, the Assessment Panel and 30 other experts will elaborate these findings into the first MA product, the *Millennium Assessment Conceptual Framework Report*, to be released in 2003. A number of issues remain that will push the frontiers of assessment processes and scientific knowledge. For example:

- Just how should a “multiscale” assessment be conducted? In particular, how do we effectively bridge the scales between local and global assessments?¹
- How can traditional and local knowledge be incorporated with formal scientific knowledge in a global assessment process? To what extent can ecological forecasting techniques be used in the development of scenarios that would allow the modeling of the consequences of different plausible futures for ecosystem services and their associated impacts on human well-being?

¹ We encourage interested institutions or countries to consider undertaking one of the sub-global components of the MA process. Information on how to become involved is available on the MA Web site at <http://www.millenniumassessment.org>.

- How can the conditions of ecosystems be most effectively assessed from the standpoint of the “goods and services” they provide and how can remote sensing information most effectively contribute to such an assessment of conditions?

As we begin this new phase of work, the same creativity and adaptability must be applied to these new questions that was instrumental in tackling the political, institutional, and financial challenges of the preparatory phase. If we are successful, the MA will not only be able to meet needs for scientific information bearing on questions at the forefront of policy debates, it will also help to define and build capacity for environmental assessments that better meet needs of local communities, nations, civil society, and business.

- *Dr. Walter V. Reid, Director, Millennium Ecosystem Assessment*

**Sub-global
Assessment
Selection
Process
Finalized**

The MA is a “multiscale” assessment that will involve components at various geographic scales (local communities, watersheds, national, global) and emphasize the interactions across scales. Sub-global assessments are expected to meet the needs of decision-makers at the scale at which the assessment is conducted and to build capacity at all scales to undertake integrated assessments. In addition, they will help to develop and test methodologies for integrated multiscale ecosystem assessments and methodologies for integrating local knowledge with formal scientific knowledge.

MA Secretariat Takes Shape

The structure of the MA Secretariat is modeled along the lines of the IPCC Secretariat, with different Technical Support Units established for each Working Group. As a result, the Secretariat misses out on opportunities to engage in hallway conversations about sports, make budget decisions over sandwiches at lunch, and generally experience day-to-day interactions that cannot quite be quantified but that significantly influence staff operations. On the other hand, this “distributed” Secretariat structure facilitates interactions between the MA and other projects and experts in all regions of the world and provides a truly global foundation for the Assessment.

Staff includes:

[Dr. Walter V. Reid](#), MA Director; [Mr. Marcus J. Lee](#), Coordinator, Sub-Global Working Group; [Ms. Belinda Lim](#), Administrative Officer, ICLARM -The World Fish Center, Malaysia
[Dr. Neville Ash](#), Coordinator, Conditions and Trends Working Group, UNEP-World Conservation Monitoring Centre, UK
[Dr. Elena Bennett](#), Research Associate, Scenarios, University of Wisconsin, USA
[Dr. Veronique Ploq-Fichelet](#), Administrator, Scenarios, Scientific Committee on Problems of the Environment (SCOPE), France
[Ms. Monika Zurek](#), Research Associate, Scenarios, International Centre for Maize and Wheat Improvement (CIMMYT), Mexico
[Dr. Pushpam Kumar](#), Research Associate, Responses, Institute for Economic Growth (IEG), India
[Dr. Henk Simons](#), Research Associate, Responses, National Institute for Public Health and the Environment (RIVM), Netherlands
[Dr. John Ehrmann](#), [Mr. Nicolas Lucas](#), [Dr. Arivudai Nambi](#), [Ms. Carol Rosen](#), [Ms. Sara Suriani](#), [Ms. Valerie Thompson](#); Engagement and Outreach, WRI/Meridian, USA
[Dr. Sherry Heileman](#), United Nations Environment Programme (UNEP) Coordination; [Mr. John Mukoza](#) and [Ms. Brygida Kubiak](#), Grants Administration, UNEP, Kenya

Even before the first call for abstracts for sub-global assessments was released in September 2000, considerable interest had been expressed by both technical experts and decision-makers in organizing national or sub-national components of the MA. However, there was little precedent for such a multiscale assessment and no assessment methodologies that could be directly used in the MA. The design of the sub-global component went through several permutations in parallel with the global assessment design in order to create a process that is scientifically and methodologically consistent both internally and with the global assessment. The process in place for selection of sub-global assessments will ensure a broad range of activities that both reflect and inform the goals and findings of the MA process. Seven sub-global assessments meeting the selection criteria have already been approved as components of the MA and an additional five have been accepted as “candidate” MA assessments. (Candidate assessments are in the early stages of planning and fundraising but expect to eventually meet the selection criteria.) Approved and candidate MA sub-global assessments are described under the “assessments” section of the MA Web site (<http://www.millenniumassessment.org/en/assessments/approved.htm>).

The list of approved assessments is geographically diverse and involves urban, rural, and coastal assessments at local, national, and regional scales in Sweden, India, Norway, China, Papua New Guinea, and Southern Africa, as well as a “cross-cutting” assessment in tropical forest sites around the world.

Candidate assessments include activities in Russia, Vietnam, China, Southeast Asia, Colombia, and coastal Australasia, with additional discussions and planning under way in Central America, India, and Europe.

If you would like to undertake a sub-global assessment as a component of the MA, you can apply to have your proposed assessment accepted as a “candidate” by submitting a letter describing the proposal and indicating your expectation that the activity will meet criteria listed in Part I of Box 1. Candidate assessments in developing countries or countries in transition can apply to the MA Secretariat for “seed funding” to support such activities as planning meetings, activities to involve intended users in the design of the proposed assessment, development of full proposals, and exploration for co-financing. Applications for seed funding will be evaluated against both Part I and Part II of the criteria in Box 1.

Assessments that are fully planned (and, typically, with co-financing arranged) and that meet the Part I criteria listed in Box 1 can become components of the MA by submitting an application describing the proposed assessment process and detailing how it meets criteria in Part I. The MA may be able to provide limited financial “core support,” particularly to assessments that rank high on the criteria in Part II. The primary contribution of the MA to the sub-global assessments will not be financial support, however, but rather the tools, data, methods, scientific networking, capacity building, and international stature that can strengthen the assessments substantively and enhance the ability of these assessments to raise funds. In general, the majority of the funding for the sub-global MA assessments will need to be raised (or provided in-kind by the institutions involved) independently of the MA.

Box 1: MA Sub-Global Assessment Selection Criteria

(This is extracted from the detailed explanation in the Sub-Global Assessment Criteria and Selection document available at <http://www.millenniumassessment.org/en/assessments/index.htm>)

Part I. Essential Criteria: All MA sub-global assessments must meet the following criteria:

I.1 The assessment must use the MA conceptual framework.

Specifically, the assessment must include components addressing:

- a. Ecosystem services, the intrinsic value of ecosystems and biodiversity, and the consequences of ecosystem changes for human well-being
- b. Trends/conditions, scenarios, responses
- c. Multiscale interactions
- d. Multisectoral and interdisciplinary expertise

I.2 The assessment must follow the MA methodological guidelines. All MA sub-global assessments must meet the standards set for:

- a. Data management
- b. Peer review
- c. Timing

I.3 The assessment must follow MA policies regarding:

- a. Transparency
- b. Intellectual property rights and access to data
- c. User involvement
- d. Evaluation

Part II: Criteria for Financial Support: All assessments included as components of the MA that wish to be considered for access to any MA funding must also meet the following criteria:

II.1 Institutional capacity

II.2 Co-financing

II.3 Contribution to the MA

The MA will give priority for financial support to those assessments that will make the greatest contribution to the overall MA process. The following considerations will be used to evaluate the relative contribution of assessments seeking financial support from the MA.

- a. *Does the assessment involve more than two layers of nesting?*
- b. *Does the assessment address an ecosystem or scale not addressed by other assessments already included as components of the MA?*

II.4 Contribution to other users

If you are interested in developing a sub-global assessment for inclusion in the MA, please contact **Marcus Lee, MA Sub-Global Assessment Coordinator**, lee@millenniumassessment.org; **tel: 60-4-626-1606**. Priority will be given to the establishment of additional sub-global assessments in 2002, so that they can link most effectively with the global component of the process. However, sub-global assessments launched after 2002 can still be fully involved in the MA Working Group meetings and have access to data, tools, methodologies, and capacity-building opportunities.

Scenarios: the Importance of Assuming Change

To ecologists, change is nothing new—most attributes of ecosystems change with the passage of time. Some changes in ecosystem functions or structure were viewed as unexpected or surprising, and ecologists often tried to explain such change in light of the status quo. Today, the notion of an ecosystem reaching and maintaining equilibrium, or “steady-state,” is being reviewed, and ecologists are turning to the concept of “ecosystem resilience” in order to comprehend the constant transformations observable in many systems. Ecosystem resilience fuses what we know about the capability of a system under pressure to maintain a certain configuration with the notion of adaptive reorganization. Therefore, ecologists now see “the importance of assuming change and explaining stability, instead of assuming stability and explaining change” (van der Leeuw et. al., 2000).

Embracing the concept of ecosystem resilience leads to new ideas for managing natural and human-made ecosystems. Change, which may create new adaptations within the ecosystem, is viewed as part of the system; however, defining “appropriate changes” and acceptable levels of change with respect to the human impact on ecosystem functioning is difficult and not something that scientists alone can define without the active involvement of individuals affected by those changes. We are learning that many human actions may cause surprising and undesirable modifications to ecosystems on a very large scale—global warming is a widely experienced example. These human-induced changes, as well as those occurring at smaller scales with which we are often more familiar, are directly affecting the capability of ecosystems to provide the services on which humans and other life on earth depend.

The Millennium Ecosystem Assessment Scenarios Working Group aims to develop scenarios on changes in ecosystem services (and subsequently in human health and well-being) based on a set of different driving forces, at scales ranging from biomes to local ecosystems. Scenarios are a set of storylines that outline a range of plausible futures. Often, the goal is to focus attention on key pathways of impact and critical decision-points for policy response. This work will:

- consider trade-offs among individual ecosystem services within the bundle of benefits that any ecosystem potentially provides to society;
- assess the modeling capabilities for linking socio-economic drivers and ecosystems services; and
- consider ambiguous futures, abrupt and surprising regime shifts, and quantifiable uncertainties.

Decision-making concerning ecological systems can be aided by the use of scientific expertise that helps identify management approaches that could yield specific future outcomes. Ecology has many methods for developing an understanding of the future. These include prediction, forecasting, and projecting—each with unique methodologies, certainties, and guidelines for estimating probabilities. Using these methods, however, we often overlook the possibility of novel situations, surprises, and regime shifts, an oversight that can lead to costly management failures. Scenario planning can be used in this context to better inform decision-making.

The storyline development process for scenarios often includes participation by stakeholders or “user groups” to ensure that the scenario is plausible and relevant to decision-makers. The use of scenarios is fairly widespread across sectors and disciplines. Over the past 40 years, they have been used by a variety of different groups and organizations, including the US military, Shell International Ltd, and civil society groups in South Africa and Colombia. More recently, scenarios have been used in scientific assessments such as the Intergovernmental

Panel on Climate Change and the World Water Vision project. The scenario approach has proved effective in strategic planning, to generate conversations among diverse stakeholders, and to highlight options for action. The Working Group for Scenarios will try to include a diversity of stakeholders, attempting to tap the vast experience of scenario development across sectors.

The process for developing scenarios will be iterative, involving dialog among scenarios experts, scientists, user communities, and others. Zero-order storylines will be organized, and driving forces and indicators will be quantified. Using the knowledge gained through this work, the Working Group members will revise the storylines repeatedly until a draft set of scenarios with an internally consistent logic is agreed on. The MA Scenarios Group is currently preparing for the first design meeting, in Trinidad in April 2002, at which work on drafting storylines will begin. **Please contact Monika Zurek (m.zurek@cgiar.org) or Elena Bennett (embenne1@wisc.edu) with questions.**

MA Meetings and Events through September 2002

April 8-19

CBD COP, The Hague; MA Side event, Monday 8 April

April 14-20

MA Scenarios Working Group Meetings, Port of Spain

April 29-May 3

MA Conditions and Trends Working Group Meeting, Rome

May 3-5

MA Data and Indicators Workshop, Rome

May 27-31

MA Responses Working Group Meeting, Delhi

May 27-June 7

Prepcom IV, Bali; MA Side event TBD

June 5

World Environment Day, One-year Anniversary of MA Launch

June 17-21

MA Sub-Global Working Group Meeting, Panama

August 22-26

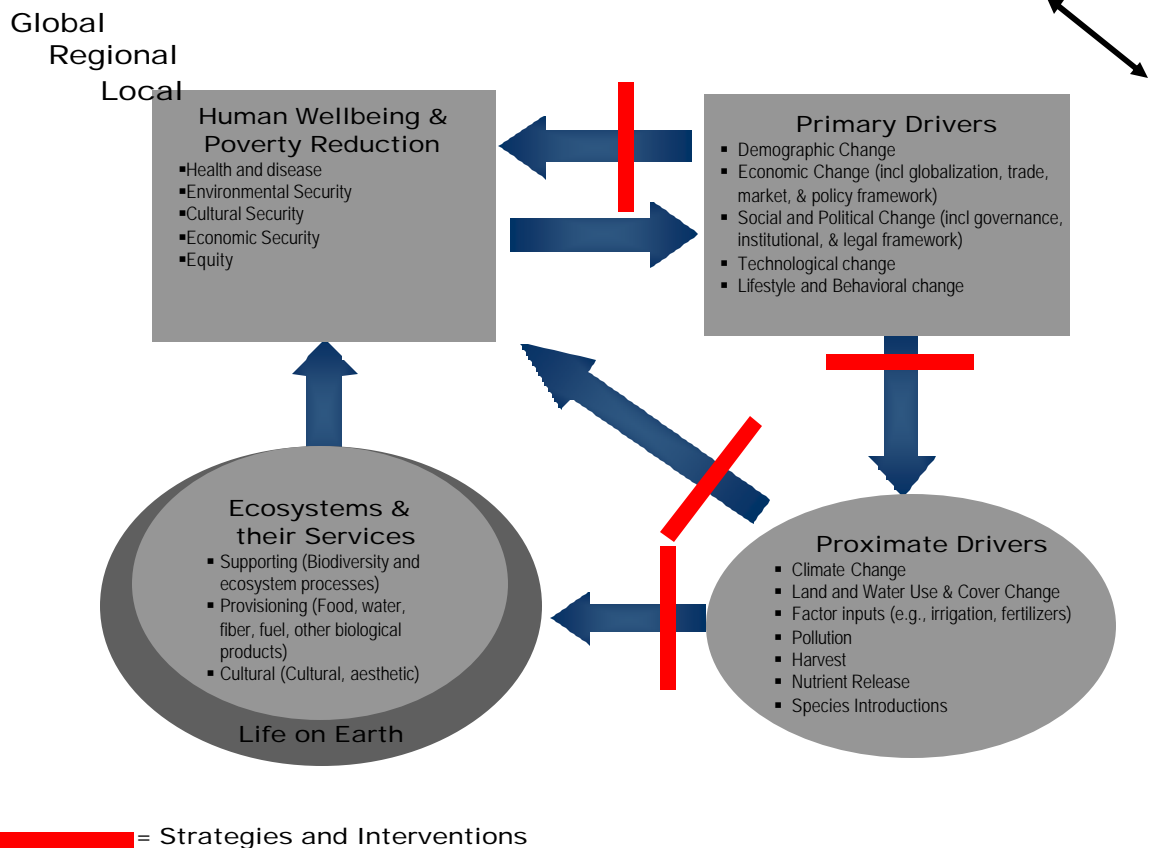
MA Conceptual Framework Meeting, location TDB

August 26-September 4

WSSD, Johannesburg; MA Side event TBD: Southern African Sub-global Assessment

**Conceptual
Framework
Report
Underway**

Setting the stage for the global findings, the first MA publication will be the *Conceptual Framework Report (CFR)*. The broad outline of the MA conceptual framework has been developed through two design meetings in 2001 and extensive consultations with users of the MA. As shown in the figure below, the MA will focus on ecosystem services (e.g., food,



water, fiber), the consequences of changes in ecosystems for human well-being, and the consequences of changes in ecosystems for other life on earth. The CFR will provide an overview of the conceptual framework and MA design, comparing and contrasting it to other frameworks that could have been used. In March, the authors of the CFR met in Paris to discuss preliminary outlines and begin writing. The conceptual framework diagram presented here is a result of that meeting; it is a slightly modified version of the diagram presented to the Board in January. *More information on the CFR and other reports is available at <http://www.millenniumassessment.org/en/workgroups/index.htm>*

Millennium Assessment Discussed at Environmental Film Festival

The Millennium Ecosystem Assessment was the subject of a panel discussion at the World Bank on Thursday, March 21, prior to the screening of a film for the 10th Annual Environmental Film Festival in Washington, DC.

The event, co-hosted by the World Bank, World Resources Institute (WRI), and Global Environment Facility, featured the screening of *Bill Moyers Reports: Earth on Edge*, preceded by a panel discussion focused on the MA. Board co-chair Robert Watson and Board member Jonathan Lash were joined on the panel by Ian Johnson, Vice President for Environmental and Socially Sustainable Development at the Bank. Watson and Lash provided an overview of the policy and scientific rationale for undertaking the Millennium Assessment and an overview of the assessment framework.

Ian Johnson moderated a lively Q&A, which included some thoughtful questions mixed with some heckling and anti-Bank statements from the audience. Nearly 300 people were in attendance for the discussion, which was open to the public.

Based on work completed by the Pilot Assessment of Global Ecosystems undertaken by WRI between 1998 and 2001, *Earth on Edge* blends interviews with prominent scientists with a series of case studies highlighting successful ecosystem management practices around the world. The film begins by calling for the establishment of the Millennium Ecosystem Assessment. *For more information on the film or the event, please contact [Rich Barnett](#), Director of Marketing and Outreach, WRI.*

Millennium Assessment Board Meeting and Members

The second meeting of the MA Board took place January 14–16, 2002, in Kuala Lumpur, Malaysia, hosted in part by the Ministry of Science, Technology and the Environment. The Board was convened to revise and approve the MA Design and Conceptual Framework, the list of nominations for Convening Lead Authors, the selection criteria and process for the sub-global assessments, the initial set of sub-global assessments, the budget, the Engagement and Outreach Strategy, and the final institutional arrangements. *A summary report of the Board's decisions can be found at <http://www.millenniumassessment.org/en/meetings/past.meetings.htm>.*

Update on Selection of Assessment Report Authors

Prominent natural and social scientists from around the world are being invited to serve as Convening Lead Authors (CLA) for the five MA assessment reports (Conceptual Framework and Methodology, Sub-Global Assessments, Conditions and Trends, Scenarios, and Responses). At its January meeting, the MA Board approved the list of proposed CLAs, which was drawn from the nominations submitted in 2001. Each assessment report chapter will be overseen by up to four CLAs. A list of the CLAs will soon be posted on the MA Web site. A number of Lead Authors (LAs) will also be invited to help prepare each chapter of the Assessment. The LAs will be selected by September 2002.

Millennium Ecosystem Assessment Board

Co-Chairs

A.H. Zakri, Director, Institute of Advanced Studies, United Nations University
Robert Watson, Chief Scientist and Director, ESSD, World Bank

Institutional Representatives

Delmar Blasco, Secretary General, Ramsar Convention on Wetlands
Peter Bridgewater, Director, Division of Ecological Science, UNESCO
Hama Arba Diallo, Executive Secretary, Convention to Combat Desertification

He Changchui, Chief, Environmental Service, Research, & Training Div., FAO
Jorge Jiménez Ramón, Chair, Science and Technical Review Panel, Convention on Wetlands
Richard Helmer, World Health Organization (WHO)
Yolanda Kakabadse, The World Conservation Union (IUCN)
Hal Mooney, Secretary General, International Council for Science (ICSU)
Seema Paul, United Nations Foundation
Jan Plesnik, SBSTTA Chair, Convention on Biological Diversity
Mario Ramos, Senior Environmental Specialist, Global Environment Facility
Dennis Tirpak, Coordinator, Science and Technology Program, Climate Convention
Klaus Töpfer, Executive Director, UNEP
Alvaro Umana, Director, Sustainable Energy and Environment Division, UNDP
Meryl Williams, Director General, World Fish Centre (ICLARM), CGIAR
Hamdallah Zedan, Executive Secretary, Convention on Biological Diversity

Members At-Large

Fernando Almeida, Executive Director, Business Council for Sustainable Development, Brazil
Phoebe Barnard, National Biodiversity Coordinator, Directorate of Env't. Affairs, Namibia
Gordana Beltram, Counsellor to the Minister, Ministry of Environment, Slovenia
Antony Burgmans, Chairman, Unilever N.V., The Netherlands
Philbert Brown, Senior Director, Ministry of Water and Housing, Jamaica
Esther Camac, Asociación Ixä Ca Vaá de Desarrollo e Información Indigeni, Costa Rica
Angela Cropper, Cropper Foundation, Trinidad & Tobago
Partha Dasgupta, Faculty of Economics and Politics, University of Cambridge, U.K.
Jose Maria Figueres, Managing Director, Center for Global Agenda, World Economic Forum
Fred Fortier, Indigenous Peoples' Biodiversity Information Network, Canada
Mohamed Hassan, Executive Director, Third World Academy of Sciences, Italy
Yoriko Kawaguchi, Minister, Ministry of Environment, Japan
Corinne Lepage, Cabinet d'Avocats, Huglo, Lepage & Associés Conseil, France
Jonathan Lash, President, World Resources Institute, USA
Wangari Maathai, Coordinator, Greenbelt Movement, Kenya
Hubert Markl, President, Max Planck Society, Germany
Paul Maro, Senior Technical Advisor, SADC, Lesotho
Susan Pineda Mercado, Ministry of Public Health, Philippines
Marina Motovilova, Faculty of Geography, Laboratory of Moscow Region, Russia
M.K. Prasad, Kerala State, India
Walter Reid, Director, Millennium Ecosystem Assessment (*ex officio*), Malaysia
Henry Schacht, Chief Executive Officer, Lucent Technologies, USA
Peter Schei, International Negotiations Director, Directorate for Nature Management, Norway
Ismail Seregeldin, Director General, Bibliotheca Alexandrina
David Suzuki, Chair, David Suzuki Foundation, Canada
M.S. Swaminathan, Chairman & UNESCO Cousteau Chair in Ecotechnology MS Swaminathan Research Foundation, India
José Tundisi, President, International Institute of Ecology, Brazil
Axel Wenblad, Vice President Environmental Affairs, Skanska AB, Sweden
Xu Guanhua, Minister, Ministry of Science and Technology, China
Muhammad Yunus, Managing Director, Grameen Bank, Bangladesh

Please direct any questions or comments regarding the contents of this update to Valerie Thompson (Thompson@millenniumassessment.org, Tel: +1 202 729 7600). You have received this information because of a request submitted via the MA website. If you do not wish to continue receiving updates on the MA, please send an email to postmaster@millenniumassessment.org, including "remove from list" as the subject of the message.